II. REMARKS

Reconsideration of the rejection of the claims as being anticipated by the Engler et al Patent 6,383,619 is respectfully requested the following reasons.

This reference relates to conventional rotational and translatable ball systems which rely solely upon the principle of potential differences produced by the different material properties at the opposing hemispheres of the balls - see Engler et al at col. 1, lines13 to 30. It is the difference in potential between the hemispheres which causes the ball to act like a bipole and rotate or migrate in the presence of an electrical field - see Figs. 3A and 4A.

In the Office Action, the Examiner merely repeats the essential features of the present claims and states that the Engler et al. patent teaches each of these features without making any specific reference to column numbers or line numbers where these features are taught by Engler et al. No clear teachings are found in the reference that the walls (416) of the particles (412) have a higher dielectric constant than that of the fluid (416) or that the dielectric liquid has dissolved therein a low concentration of an ionizable charge director material which forms clusters of mobile ions of opposite charge and different mobilities which move within the liquid towards the cavity wall of opposite polarity and induce a dipole moment and rotate the particles.

The portions of the Engler et al. Patent referred to by the Examiner at page 3, lines 3-4 of the Office Action merely refer

to the effects of the changes of polarity upon the anisotropic particles 106 within the liquid-filled cavity 108, whereby they either rotate or translate. There is no mention of relative dielectric constants, or of ionizable charge director materials or mobile ion clusters of different mobilities, or dipole moments. These features called for in claim 1 are not discussed anywhere in the cited prior art. (The Examiner's attention is directed to the present specification at pages 3 and 4 of the patentable features called for in claim 1).

Regarding claim 2, Engler et al. has no disclosure of the application of an electric field of a predetermined magnitude or threshold to cause the particles to release from one electrode and rotate and face the other electrode - see the specification, page 8, lines 19-31. In Engler et al. the mere reversal of applied voltage, regardless of magnitude, causes the ball to rotate or translate away from the electrode to which it was formerly attracted - see the reference at col. 8, lines 26-28 and lines 36-40.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly not anticipated by the Engler et al. patent under Section 102(e), nor are they obvious from the reference under Section 103 and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No.24-0037.

Respectfully submitted,

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9/16/03
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

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